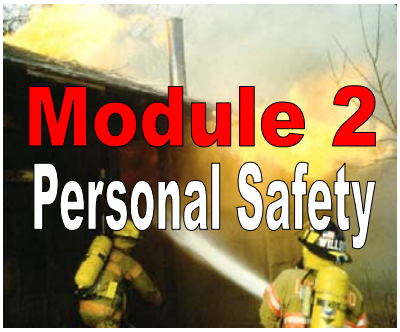
MODULE 2

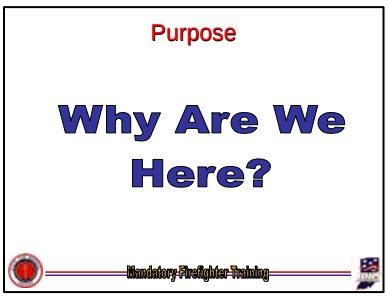
PERSONAL SAFETY

Student Guide

Introduction



Purpose of this module. The purpose of this module is to provide you, the recruit firefighter, a basic understanding of safety with respect to the scene, the station, and places in between. It is the policy of the fire department to provide as safe an environment as possible for all members while on duty, whether at an emergency incident site, on station, or other locations. This training is mandated by state regulation for all entry level firefighters.



Scope of this module. During this module, we will discuss cover such topics as: safety issues, firefighter injury and causes of death, safety standards and regulations, accident prevention, the safety triad, firefighter safety responsibility, personal protective clothing and ensembles, types of personal protective equipment (PPE), it's care and maintenance and effectiveness. You will have a practical exercise later in the donning and doffing of bunker gear.

Objectives. By the end of this module, you will:

1. Be able to describe the protection provided by firefighter protective clothing including helmet, bunker coat, bunker boots, nomex hood, gloves and duty uniforms.
2. Describe the limitations of the firefighter protective clothing listed in 1 above.
3. Know steps for protecting self from infectious disease and bloodborne pathogens.
4. List types of personal protective equipment, not listed in 1 above.
5. Don firefighter personal protective clothing within 1 minute.
6. Doff firefighter personal protective clothing and prepare for reuse.
7. Inspect personal protective clothing.

Firefighting is filled with the potential for being seriously injured or killed. Today's firefighter understands that certain risks have no tangible benefit. The firefighter needs to look at the causes of injuries and deaths associated with firefighting.

Safety Issues

It is important to understand what events and circumstances typically lead to injury. A study of injury causes has inspired fire and safety professionals to create standards and regulations to help prevent injuries. Standards and regulations directly affect some of the training and tactics the fire service employs today. The firefighter needs to understand that simple accident prevention steps are actually helping the fire service address safety.

Firefighter Injury and Death Causes.

Approximately one-half of all duty deaths and injuries occur at the incident site.
The other half occurs during training, response to and from an incident, and other duties.
Heart attacks are the leading type of death-producing injury. Trauma, crushing injuries, and asphyxiation follow heart attacks in number of death causes. Data suggests that the number of deaths and injuries associated with burns and asphyxiation are increasing. Entry level and ongoing evaluations can help identify any medical condition or physical limitation that could increase the risk of injury or death.

Safety Standards and Regulations.

- In 1970, OSHA was created.
- OSHA is responsible for safety-related workplace regulations.
- Regulations are part of CFR.
- Originally public agencies not exempt from OSHA's CFRs.

Fire service wrote safety and health standards for the fire service.

NFPA 1500 written to help fire departments address safety issues.

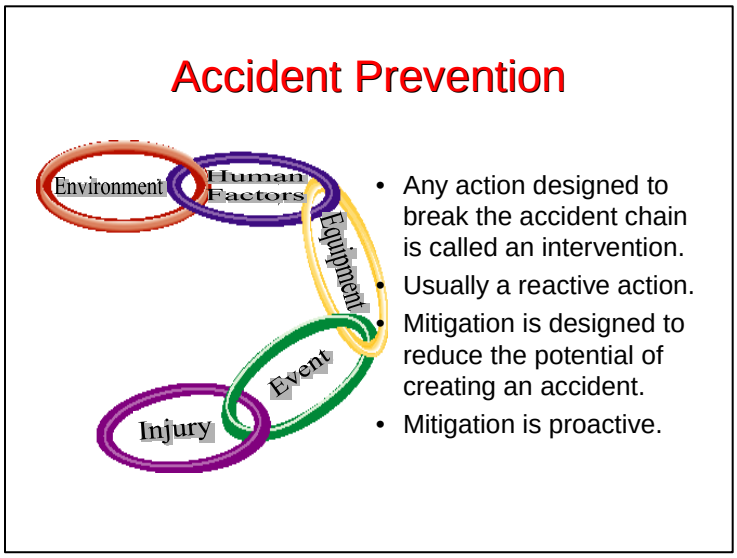
While other NFPA standards address safety, NFPA 1500 focuses primarily on safety issues.

Firefighters should meet medical requirements of NFPA 1582 and training requirements of NFPA 1001

Accident Prevention

An accident results from a series of events and conditions that lead to an unsafe situation resulting in injury and/or property damage. These events and conditions are referred to as the accident chain:

- The environment – This includes physical surroundings.
- Human factors – This includes human and social behavior.
- Equipment – This includes apparatus, PPE, maintenance, proper application, and equipment limitations.
- The event – The intersection of the previous components.
- The injury – The last part deals with the actual injury associated with the accident.



Any action designed to break the accident chain is known as an intervention. Intervention is typically a reactive action.

A strategy designed to reduce the potential of creating an accident chain is known as mitigation. Mitigation is a proactive action.

The Safety Triad

The Safety Triad. Fire service operational environments are made up of:

- Procedures.
- Equipment.
- Personnel.

Each component must be addressed to mitigate injuries.

Procedures.

- Structure from which all incident activity begins.
- Formal procedures are written as Standard Operating Procedures (SOP's) and Standard Operating Guides (SOG's).
- Informal procedures are operations that are part of the routine but are not in writing.

Equipment.

- Vast amounts of new equipment have been introduced into the fire service.
- Most equipment designed to meet a safety standard.
- Equipment must be maintained and serviced.
- Guidelines are often developed for essential equipment.

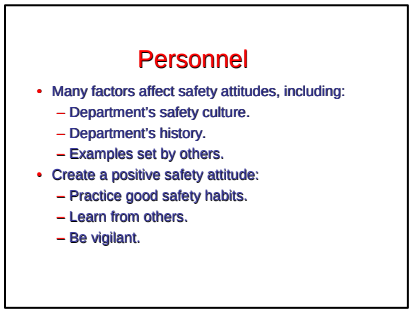
Guidelines. Guidelines should include:

- Selection.
- Use.
- Cleaning and decontamination.
- Storage.
- Inspections.
- Regular checks.
- Repairs.
- Criteria for retirement.

Personnel.

- Human factors often cited as cause of injuries and death.
- Training, fitness/health, and attitude impact safety.
- Proper training and drills will prevent injuries.
- A firefighter's body must be able to handle stress.
- Mental health is also an important aspect.

Many factors affect safety attitudes, including:



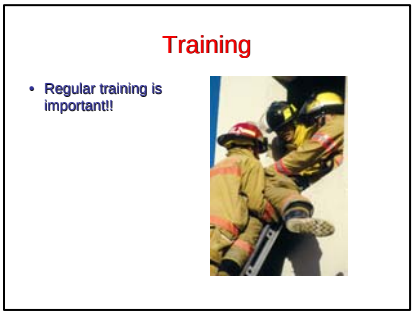
- Department's safety culture.
- Department's history.
- Examples set by others

Creating a positive safety attitude:

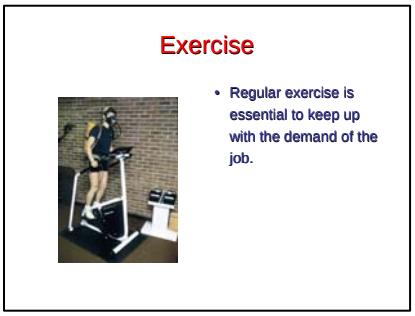
- Practice good safety habits.
- Learn from others.
- Be vigilant.

Training. Regular training is important.

- Under adverse conditions, firefighters always revert to what they have learned through repetitive training.
- Continue to focus on the basics.
- Train in PPE whenever possible.



Exercise. Regular exercise is essential to keep up with the physical demands of the job. The firefighter health and wellness initiative is supported by the National Volunteer Fire Council (NVFC), International Association of Firefighters (IAFF), International Association of Fire Chiefs (IAFC), and NFPA.



Firefighter Safety Responsibilities

Firefighter safety is dependent on the effort of everyone: the department, the team , the individual firefighter.

The Department.

The responsibility for firefighter safety ultimately rests with the department's leadership. It is important to define a proper and expected level of procedure or behavior in addressing operations that can cause injury.

SOPS may be developed for many areas in order to address safety issues.

Firefighting requires rugged, specially designed equipment that ensures a certain level of reliability and safety.

NFPA also has standards addressing equipment safety.
The department also needs to develop and deliver hazard awareness training.

Virtually all training is designed to help the firefighters operate in a safe manner. Training is the best means to inform firefighters of the hazards they may face on any incident.

The Team.

The department as a whole cannot be effective in ensuring safety with the support of a team approach. The team depends on each individual firefighter. A team should follow certain procedures to ensure safety.

These include:

- Using the Incident Management System (IMS).
- Working together and remaining intact as a team.
- Looking after each other.
- Working as a team and looking out for each other can greatly help reduce the chances of injury.

Remember: Separation of members within a team is a contributing factor to firefighter fatalities.

The Individual Firefighter

The individual firefighter holds the final key to making the safety partnership work.

A firefighter reporting to duty or an incident with a physical limitation will increase everyone's danger. Do not approach an incident if you are injured or not able to function properly. For an incident management system to work, all firefighters must fill their roles and not operate outside of them. Incident task needs may place a firefighter in position to perform a skill or task that the firefighter may not have been trained.

An incident is not the time for firefighters to be training. Therefore, training needs to be done on a regular basis.

Firefighting and rescue require a team effort to be successful. Working alone or outside the plan endangers individuals and the team. Practice and use an "Incident Engagement Checklist" to achieve a standard safety approach to all incidents.

Personal accountability. Every fire department should have a personnel accountability system to track personnel and assignments on the emergency scene. The system should record the individuals assigned to each company, crew, or entry team; the assignment for each team; and the team's current activities. Several kinds of accountability systems are acceptable, ranging from paper assignments or display boards to laptop computers and electronic tracking devices. Whatever system your fire department has you should know how it works and use it at every emergency scene.

Personal Protective Clothing

Firefighters and emergency medical providers respond to incidents that are often an immediate danger to life and health. (The term used for this is IDLH.)

Personal protective equipment (PPE) provides a minimum level of protection and should be considered the last resort for protection.
Proper fire streams, zoning, and sound tactics and procedures should provide a greater measure of safety for teams in an IDLH environment.

PPE is the first thing firefighters put on and the last thing they take off. PPE for firefighters can take many forms.

Each piece of equipment has specific limitations that govern the performance of the equipment. Most injuries occur when firefighters fail to properly don or secure PPE.

Personal Protective Equipment Factors

Personal protective equipment for firefighters has evolved significantly during the past two decades.

Modern PPE has been developed as a result of direct efforts of labor groups, such as the International Association of Firefighters (IAFF), equipment manufacturers, and government entities. The National Fire Protective Association (NFPA) provides a forum for this consensus building.

Standards and Regulations

The NFPA has developed numerous standards for firefighter protective equipment and ensembles. All equipment worn by a firefighter should meet current applicable standards.

The federal government, through the Occupational Safety and Health Administration (OSHA), is also involved in PPE use. Other agencies involved in issues dealing with PPE include the Environmental Protective Agency (EPA), Center for Disease Control (CDC), American National Standards Institute (ANSI), ASTM, and NIOSH.

Types of Personal Protective Clothing.

NFPA has developed minimum PPE standards for structural firefighting, proximity firefighting, wildland firefighting, and technical rescue.

Structural PPE is commonly referred to as bunkers or turnouts.

The main component of structural PPE is the coat and pant combination. This component is made up of three layers: a fire-resistant outer shell, a vapor barrier, and a thermal barrier. The three layers help the coat and pant meet thermal protective criteria for insulation that minimizes the chance that the wearer will be burned.

NFPA Compliant PPE

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Thermal protective performance (TPP) criteria refer to how much time a person has before a second degree or greater burn is likely to be sustained. The TPP for structural firefighting coats is 35 seconds.

Helmets. Originally designed to shed water and hot embers, the fire helmet of today exceeds those of the past in many ways. Newer helmets, while maintaining the classic design, are impact resistant, and provide thermal insulation, earflaps, a chinstrap, and face shields or eye protection accessories.

Gloves are essential in the structural ensemble.

NFPA 1001 Standards require that gloves provide thermal protection and safety from cuts, punctures, and scrapes.

The firefighter has an expanding choice of approved footwear. While they must all meet NFPA 1001 Standards, all types of footwear have their advantages and disadvantages.

The protective hood is an important interface that creates an encapsulating link to the firefighter's helmet, coat, and SCBA face piece. Structural protective hoods have a TPP less than that of a structural coat.

Miscellaneous PPE Components.

- Firefighters use different forms of eye and hearing protection.
- Personal Alert Safety System (PASS).
- Firefighters often required to wear a work uniform.
- NFPA 1975 addresses station/work uniforms for firefighters.

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PASS devices. The use of the personal alert safety system (PASS) devices by all firefighters and rescuers is mandatory under NFPA 1500. We will discuss them in detail during Module 3, Self-Contained Breathing Apparatus (SCBA). For your own protection, each of you must use the PASS and be responsible for personal accountability on the scene. We will also discuss a system called the "Mayday Declaration" that in the event you become injured, lost, disoriented, or your air tanks run out, all efforts of brother firefighters on the scene will be focused on your rescue. PASS must always be used like all systems that serve to keep you alive and safe. They should NEVER be substituted by false bravado.

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Structural PPE components.

- Helmet.
- Goggles.
- SCBA.
- Coat
- Pants.
- Boots.
- Hood.
- Radio.
- Flashlight.
- PASS device.
- Pocket tools.
- Gloves.

Structural Firefighting PPE Ensemble Components

Helmet	**Hood**
Goggles	**Radio**
SCBA	**Flashlight**
Coat	**PASS Device**
Pants	**Pocket Tools**
Boots	**Gloves**

Wild land firefighting conditions are unique in that firefighting operations are often outdoors, require prolonged physical effort, and usually are conducted under high ambient temperatures.

- Wild land PPE, also known as brush gear, addresses the specific needs of the wildland firefighter.
- Wildland PPE is lightweight and provides breath ability, firm ankle support, and hot ember protection.
- Lightweight jackets, shirts, and trousers are typically made of a fire-resistive material or treated cotton.
- Lace-up leather boots that rise well above the ankle help protect the wearer from cuts, snakebites, and burns.

Wildland Fire Shelter

A fire shelter is another unique component in the wildland PPE ensemble.

Web gear is also essential for the wildland firefighter.

Wildland Web Gear

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Care and maintenance of Personal Protective Equipment.

- NFPA requires all care instructions be clearly labeled.
- Equipment exposed to biological and chemical contaminants must be decontaminated.
- PPE should be routinely inspected.
- Manufacturers need to provide instructions and information on:
- Safety considerations.
- Limitations and use procedures.
- Marking recommendations and restrictions.
- Warranty information.
- Sizing/adjustment procedures.
- Recommended storage procedures.
- Inspection frequency and details.
- Donning and doffing procedures.

PPE effectiveness: “Street Smart”

- PPE is only effective if worn properly.
- Good PPE habits and a positive attitude can minimize injuries.
- Taking shortcuts with PPE can lead to injury.
- Good habits include fast and proper donning of appropriate PPE.

PPE “Street Smart” suggestions.

- Keep PPE clean.
- Practice team checks.
- Position PPE for rapid donning.
- Always use prudent judgment.
- PPE includes flashlight, tool, radio, earplugs, eye protection, accountability tag, and a partner.
- Practice proper donning and doffing.
- Stay hydrated when wearing PPE.

NFPA requires manufacturers to clearly label care instructions for cleaning each piece of equipment.

Manufacturers also need to provide the user with specific instructions and information on the following:

- Safety considerations.
- Limitations of use.
- Marking recommendations and restrictions.
- Sizing/adjustment procedures.
- Recommended storage practices.
- Inspection frequency and details.
- Donning and doffing procedures.

Interface issues.

- Equipment exposed to biological and chemical contaminates should be decontaminated in accordance with the manufacturer's instructions.
- Personal protective equipment must be routinely inspected, retired, and disposed of as suggested by the manufacturer, when appropriate.

Personal Protective Equipment Effectiveness

Fire departments spend thousands of dollars equipping each firefighter with PPE for hazards they may face.

PPE is only effective if worn properly.

Developing good PPE habits and a positive attitude toward safety can help eliminate injuries.

Firefighters who take a "wait and see" attitude will end up taking shortcuts when using their PPE.
A key to proper and effective use of PPE is development of good habits that include fast, proper, and complete donning of appropriate PPE.

The benefits of self-discipline, applied to PPE completeness, pay dividends in the form of acclimation, or "getting used to", wearing PPE.

Firefighters should remember the following:

- Keep PPE clean.
- Practice “team checks”.
- Position PPE for rapid and complete donning when at the station.
- When doffing PPE, prepare it for the next response.
- Always use prudent judgment.
- PPE also includes a flashlight, personal tool, radio, earplugs, eye protection, accountability tag, and a partner.
- Practice proper donning and doffing regularly.

Be the PPE success example.

When wearing PPE, the firefighter must increase water consumption to stay hydrated.

Use the PASS device.

Safety while riding on fire apparatus.

- Use handrails when climbing on or off the fire apparatus.
- Never ride on the outside of an apparatus.
- Open jump seats should be equipped with safety bars.
- Equipment stored in the cab should always remain properly secured while the apparatus is in motion.
- Put your PPE on prior to getting on the apparatus.
- Remain seated while apparatus is in motion.
- **Always wear your seat belt!!!**
- Always utilize your hearing protection.
- Stay seated until apparatus comes to a complete stop.

Firefighter Life Safety Initiatives

Duty and responsibility --Make EVERY DAY a TRAINING DAY….so that…EVERYONE GOES HOME!

Firefighter Maintenance Program

- Regular Medical Check-ups.
- Yes – they can be a pain, but if you don't do it for you – do it for those who need you.
- Regular Exercise.
- Even walking makes a BIG difference!
- Walk a mile a day and watch the changes.
- Eat Healthy.
- Think about what you are eating, and then picture operating interior at a working fire 30 minutes later.
- Now, what do you want to eat?

Firefighter Rehab Guidelines

- Stop before you drop.
- Cool down when hot
- Warm up when cold
- Dry off when wet
- Stay hydrated with non-caffeinated drinks.
- Monitor vital signs.

Firefighter Response Plan

- Get fully dressed in full PPE from head to toe!
- Get in!
- Sit down!
- Fasten your seatbelt!
- Enjoy the ride with a driver who will get you there in one piece!

Driver Response Plan

- It's not a race!
- Safe is more important than fast!
- Stop at red lights and stop signs!
- NO EXCUSES!!
- If they don't get out of your way – don't run them over!
- THINK and REACT CAREFULLY!!

Interior Firefighting Plan

- Work as a team!
- Stay together!
- Stay oriented!
- Manage your air supply!
- Get off the apparatus with tools and a thermal imager for EVERY interior operating team!
- A radio for EVERY member!
- Provide constant updates!
- Constantly assess the Risk/Benefit model!

You Can Make A Difference. Get Back To Basics.

Lifting

Most back problems occur over a period of time. Careful attention to lifting on the job and at home and regular exercise to maintain fitness and strength will help you maintain a healthy back. The following principles will assist in lowering your risk of back pain due to lifting.

Size up the load. Test it to see if you can lift it safely. Can you grasp it securely? Good handholds (cut-outs, handles) will make the load easier to lift. Make sure the load is balanced in your hands.

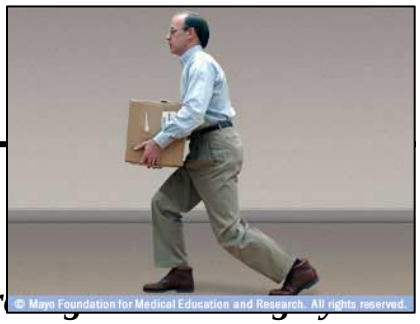
Get as close to the load as possible before lifting it. If possible, slide the load towards you before picking it up.

Make sure your footing is secure. Do not lift objects that obscure vision and footing.

Do not twist while lifting! Move your feet so that they point in the direction of the lift as you turn.

Lift smoothly, but not slowly. Do not jerk the load.

Organize the work so as to avoid lifting from the floor or above shoulder level. Items to be handled should be between knee and shoulder height.



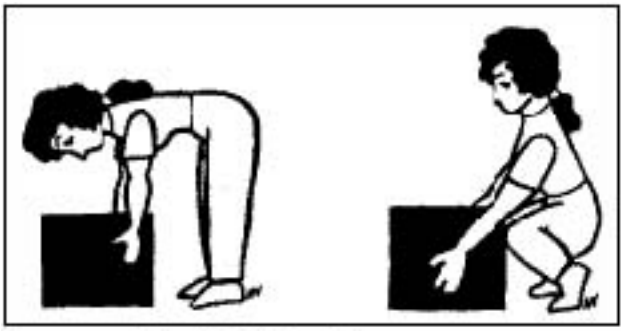
Keep the load as close to your body as possible. If the load is large and cannot be placed between your knees as they are bent, bend at the

hips and waist with your knees relaxed. It is more important to keep the load close than it is to bend your knees. One solution to lifting a larger load is to get another person to help you. A better solution is to use mechanical assistance (hand trucks, carts) to avoid lifting altogether. GET HELP WITH LARGE LOADS.

If you have a lot of lifting to do during the day, try not to do it all at once. Alternate lifting tasks with lighter work to give your body a chance to recover. Remember, mechanical assistance is just as important for repetitive lifting as it is for heavy lifting.

Use the same principles when lowering or placing the load after lifting. Place carefully.

Try to avoid carrying the load more than 10 feet without getting mechanical assistance. Use a dolly or cart.



Bad Lifting Postures

Good Lifting Posture

V. Roadway / Highway Operations

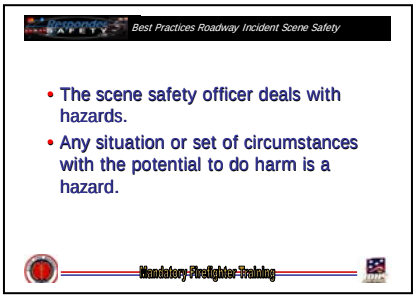
All vehicle crash-scene hazards fall into one of three general categories; environmental hazards, scene hazards, and hazards presented by the vehicle itself.

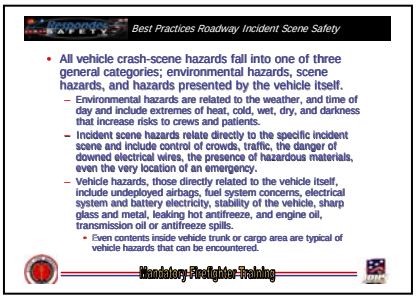
Environmental hazards are related to the weather and time of day and include extremes of heat, cold, wet, dry, and darkness that increase risks to crews and patients.

Incident scene hazards relate directly to the specific incident scene and include control of crowds, traffic, the danger of downed electrical wires, the presence of hazardous materials, even the very location of an emergency.

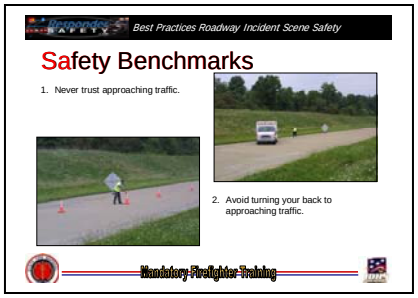
Vehicle hazards, those directly related to the vehicle itself, include undeployed airbags, fuel system concerns, electrical system and battery electricity, stability of the vehicle, sharp glass and metal, leaking hot antifreeze, and engine oil, transmission oil or antifreeze spills.

Even contents inside vehicle trunk or cargo area are typical of vehicle hazards that can be encountered.





The Safety Benchmarks in the following presentation are taken from the University of Extrication "Safe Parking" SOP by Ron Moore.



Benchmark 1: Never trust approaching traffic – It is important not to assume that approaching traffic is aware of the situation ahead (i.e. not paying attention or distracted) or that they do not understand what the traffic control devices are telling them to do. Therefore responders cannot trust traffic to do as expected.

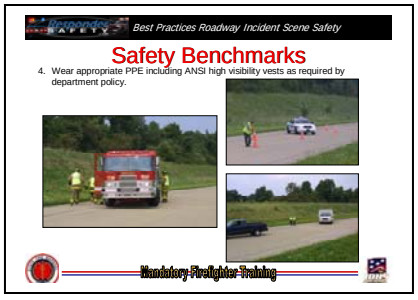
Benchmark 2: Avoid turning your back to approaching traffic – See rule one, because traffic cannot be expected to do as desired, responders should avoid turning their backs to approaching traffic. This means positioning yourself so you can see approaching traffic as you work, alternating looking to traffic and ahead as you walk, and or having a spotter when in a position to monitor approaching traffic when you cannot monitor traffic yourself.

Benchmark 3: Establish an initial block with the first arriving emergency vehicle or fire apparatus.

A ***Block*** is defined as positioning of fire apparatus (or emergency vehicles) on an angle to the lanes of traffic creating a physical barrier between upstream traffic and the work area.

Note: While blocking provides some protection keep in mind that emergency vehicles are not designed as attenuators. Depending on the size and application of the vehicle it will provide varying protection from a vehicle strike. Obviously a police cruiser will provide considerably less protection than a fire engine carrying 500-1000 gallons of water. Another important consideration is that the blocking vehicle not only physically blocks traffic from the work area but it blocks the view of responders in the work area to monitor traffic.

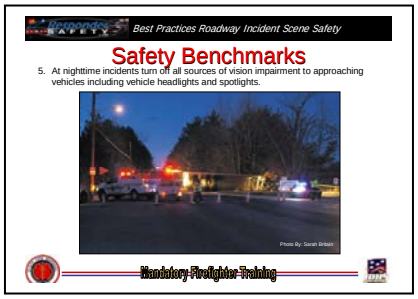
Benchmark 4: Wear appropriate PPE including ANSI high visibility vests as required by department policy.



At the time this presentation was created the new ANSI emergency responder compliant vests were not readily available. However, this will be the standard for reflective clothing to be worn by emergency responders. The standard was created because the Class III requirements necessitated sleeves on the vest which are not practical for responders.

It is important for organizations to have department policy that stipulates what level of PPE is required at roadway incidents. Consideration should be given to the wearing of full structural fire fighting gear (bunker gear) including helmets. Police and EMS departments may have less to consider.

Benchmark 5: At nighttime incidents turn off all sources of vision impairment to approaching vehicles including vehicle headlights and spotlights.



Consider the effect on approaching traffic of all emergency lighting. The high intensity lights that are so effective for emergency warning can also be blinding and confusing to approaching traffic in darkness, especially white light.

Benchmark 6: Use fire apparatus and police vehicles to initially slow down and redirect the flow of moving traffic.

Early on in a roadway incident it may not be possible to deploy traffic control devices in an effective manner. However response cannot be delayed until these devices are completely set up. Therefore, vehicles can be used, similarly to blocking position, to redirect the flow of traffic.

Benchmark 7: Establish advance warning and adequate transition area traffic control measures upstream of incident to reduce travel speeds of approaching motorists.

Advance warning is defined as notification procedures that advise approaching motorists to transition from normal driving status to that required by the temporary emergency traffic control measures ahead of them.

Background from MUTCD

Section 6I-1 Warning and guide signs used for TTC traffic incident management situations may have a black legend and border on a fluorescent pink background (see Figure 6I-1).

Section 6F.16 Position of Advance Warning Signs Guidance: Where highway conditions permit, warning signs should be placed in advance of the TTC zone at varying distances depending on roadway type, condition, and posted speed. Table 6C-1 contains information regarding the spacing of advance warning signs. Where a series of two or more advance warning signs is used, the closest sign to the TTC zone should be placed approximately 30 m (100 ft) for low-speed urban streets to 300 m (1,000 ft) or more for freeways and expressways. Support: Various conditions, such as limited sight distance or obstructions that might require a driver to reduce speed or stop, might require additional advance warning signs. Option: As an alternative to a specific distance on advance warning signs, the word AHEAD may be used. Support: At TTC zones on lightly-traveled roads, all of the advance warning signs prescribed for major construction might not be needed. Option: Utility work, maintenance, or minor construction can occur within the TTC zone limits of a major construction project, and additional warning signs may be needed. Guidance: Utility, maintenance, and minor construction signing and TTC should be coordinated with appropriate authorities so that road users are not confused or misled by the additional TTC devices.

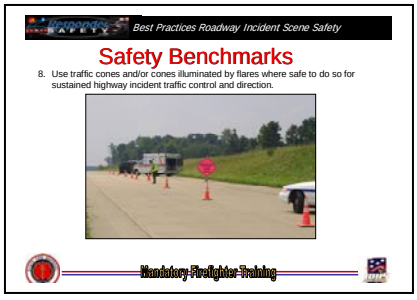
Establish advance warning and adequate transition area traffic control measures upstream of incident to reduce travel speeds of approaching motorists.

A transition area or zone is defined as the lanes of a roadway within which the approaching motorists change their speed and position to comply with the traffic control measures established at an incident scene.

Background from MUTCD

Section 6C.04 Advance Warning Area Support: The advance warning area is the section of highway where road users are informed about the upcoming work zone or incident area. Option: The advance warning area may vary from a single sign or high-intensity rotating, flashing, oscillating, or strobe lights on a vehicle to a series of signs in advance of the TTC zone activity area. Guidance: Typical distances for placement of advance warning signs on freeways and expressways should be longer because drivers are conditioned to uninterrupted flow. Therefore, the advance warning sign placement should extend on these facilities as far as 800 m (0.5 mi) or more. On urban streets, the effective placement of the first warning sign in meters (feet) should range from 0.75 to 1.5 times the speed limit in km/h (4 to 8 times the speed limit in mph), with the high end of the range being used when speeds are relatively high. When a single advance warning sign is used (in cases such as low-speed residential streets), the advance warning area can be as short as 30 m (100 ft). When two or more advance warning signs are used on higher-speed streets, such as major arterials, the advance warning area should extend a greater distance (see Table 6C-1).

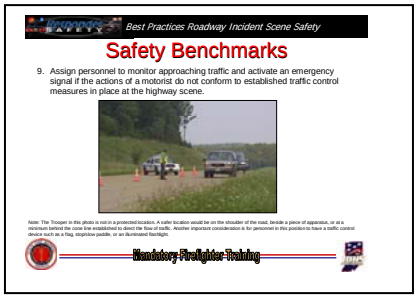
Benchmark 8: Use traffic cones and/or cones illuminated by flares where safe to do so for sustained highway incident traffic control and direction.



As a roadway incident progresses more traffic control devices can be set up and may be required to maintain traffic flow. This includes traffic cones and other control devices such as emergency signage, arrow boards, and attenuators.

Note: The use of flares should be considered at scenes where it is safe to do so. A scene with any hazardous material spilled or a significant potential for fire is not a safe area for the use of flares. Another means of illuminating cones would need to be explored.

Benchmark 9: When possible assign personnel to monitor approaching traffic and activate an emergency signal if the actions of a motorist do not conform to established traffic control measures in place at the highway scene.

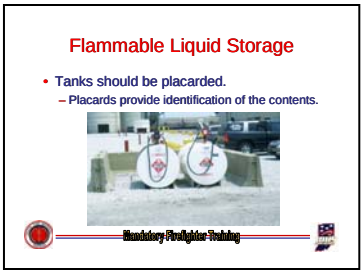


Due to the fact that approaching traffic cannot be trusted to conform to the traffic control measures established at a scene it is recommended that one or more responders be assigned to monitor traffic. All responders are responsible for monitoring traffic, however due to blocking vehicles and responsibilities on scene this may not always be easily accomplished. A dedicated monitor of approaching traffic can warn all other responders of a threat and possibly take action to alert the motorist of the problem.

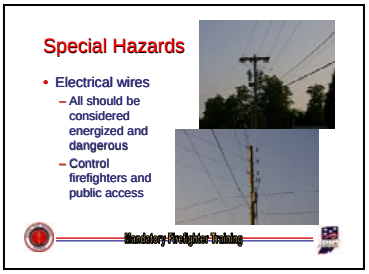
Note: The Trooper in this photo is not in a protected location. A safer location would be on the shoulder of the road, beside a piece of apparatus, or at a minimum behind the cone line established to direct the flow of traffic. Another important consideration is for personnel in this position to have a traffic control device such as a flag, stop/slow paddle, or an illuminated flashlight.

General Hazards

Every community has special hazards that carry additional risk to the firefighter as well as the community. These Risks will create challenges for the firefighter and fire department. Some of the risks will come from facilities used for storage of various commodities. The critical aspect of fire suppression in these types of facilities is to identify the products that are stored inside before operations are begun. This can be done utilizing a variety of systems but the most common is placarding of packages, containers and buildings. These placards provide a standard product identification number that can be referenced in documents.

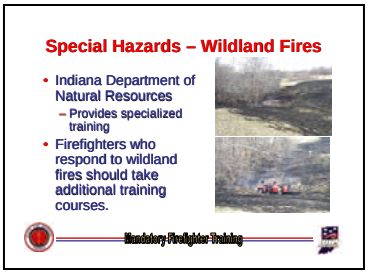


- Warehouse Storage
- Flammable Liquid Storage
- Chemical Storage
- Utilities
- Firefighters should determine contents before beginning suppression operations.
- Tanks should be placarded.
- Placards provide identification of the container contents.



- Electrical Wires – should be considered energized and dangerous. Control firefighters and public access to the areas where wires are down.
- Natural / LP Gas – controlling leaks require specialized training and tools necessary to detect and contain leaks.

- Wild land firefighting operations – students should be aware of the dangers associated with wild land fire suppression operations. In addition to the fire danger the physical condition of firefighters must be monitored to insure that they are not overstressing their bodies. The Indiana Department of Natural Resources provides specialized training programs in wild land firefighting. Firefighters who respond to wild land fires should take additional training courses before engaging in suppression operations.



Review and Closing

During this module we have discussed some things relating to YOUR personal safety as a firefighter. These included:

1. Safety issues.
2. Firefighter injury and causes of death.
3. Safety standards and regulations.
4. Accident prevention and the safety triad.
5. Firefighter safety responsibility.
6. Personal protective clothing and ensembles.
7. Types of personal protective equipment.
8. PPE care and maintenance.

Closing. One of the first things you must learn as a firefighter is that this is a very dangerous business. Your failure to appreciate and act appropriately under such conditions may be the cause of personal injury or death. Your death, or the death of a brother firefighter.